



# UNITED STATES PATENT AND TRADEMARK OFFICE

80

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/872,581      | 05/31/2001  | Fabio Casati         | 10007896-1          | 2636             |

7590 08/10/2005

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

|          |
|----------|
| EXAMINER |
|----------|

LIN, KENNY S

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2154

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/872,581

Applicant(s)

CASATI ET AL.

Examiner

Kenny Lin

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-20 are presented for examination.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: cooperative relationship between activation rule and elements in a vector is not shown.

- a. The following terms lack proper antecedence basis:

- i. Claim 12, lines 6-7 – “the mulitnode”.

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2154

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al (hereinafter Du), US 6,041,306, in view of Applicant Admitted Prior Art (AAPA).

6. Du was cited in the previous office action.

7. As per claim 1, Du taught the invention substantially as claimed including a method for invoking multiple parallel instances of a same node comprising the steps of:

- a. Defining a multimode (col.4, line 10-28) as a node that allows for multiple parallel activation (col.3, lines 1-10, col.4, lines 10-14, 17-22, 45-50);
- b. At run time determining a number of work nodes to be activated in the multimode based on an activation rule (col.4, lines 66-67, col.5, lines 59-67, col.6, lines 1-6, col.7, lines 5-8, col.15, lines 46-51);
- c. Executing the number of work nodes in the multinode (col.6, lines 39-48);
- d. Determining when the execution of the multinode is completed based on a termination rule (col.6, lines 49-63, col.7, lines 5-8; cancel activity, time out and deadline); and
- e. When the execution of the multinode is complete, executing a successor node (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6; forward activity); and
- f. When the execution of the multinode is not complete, processing continues at step c (col.1, lines 56-63).

Art Unit: 2154

8. Du did not specifically teach to allow activation of multiple parallel instance of a same work node. However, the teaching of allowing activation of multiple parallel instance of a same work node is applicant admitted prior art (see page 5, lines 3-21 of the specification). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and applicant admitted prior art (AAPA) because AAPA's teaching of multiple parallel instance to enable Du's method to have each work node to perform a sequence of activities in parallel and span to several business organizations (see Du, col.4, lines 45-56, see specification page 3, lines 20-21, page 5, lines 3-21).

9. As per claim 12, Du taught the invention substantially as claimed including a system for processing multinode definitions comprising:

- a. A workflow engine for processing workflow definitions (col.3, lines 5-7, col.4, lines 10-14, 22-27); and
- b. A multinode handling facility coupled to the workflow engine for processing multinodes (col.3, lines 1-10, col.4, lines 10-14, 17-22, 45-50), determining a number of work nodes in one of the multinodes to be activated based on an activation rule (col.4, lines 66-67, col.5, lines 59-67, col.6, lines 1-6, col.7, lines 5-8); executing the number of work nodes in the multinode (col.6, lines 39-48); determining when the execution of the multinode is completed based on a termination rule (col.6, lines 49-63, col.7, lines 5-8; cancel activity, time out and deadline); and when the execution of the multinode is completed, executing a

successor node (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6; forward activity).

10. Du did not specifically teach activation of multiple instance of a same work node. However, the teaching of activating of multiple instance of a same work node is applicant admitted prior art (see page 5, lines 3-21 of the specification). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and applicant admitted prior art (AAPA) because AAPA's teaching of multiple parallel instance to enable Du's method to have each work node to perform a sequence of activities in parallel and span to several business organizations (see Du, col.4, lines 34-56, see specification page 3, lines 20-21, page 5, lines 3-21).

11. As per claim 2, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that determining the number of work nodes to be activated based on said activation rule includes determining the number of work nodes to be activated based on said activation rule based on the number of resources available (col.2, lines 22-51, col.6, lines 1-6).

12. As per claim 3, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that determining the number of work nodes to be activated based on said activation rule includes determining the number of work nodes to be activated based on said activation rule based on elements in a vector (col.2, lines 22-51, col.6, lines 1-6).

Art Unit: 2154

13. As per claims 4, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that determining the execution of the multinode is completed based on said termination rule includes evaluating whether a multimode goal has been achieved, and when the multinode goal has been achieved, terminating the execution of the multinode (col.6, lines 49-63, col.14, lines 57-67, col.15, lines 1-5, 28-45).

14. As per claim 5, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that determining when the execution of the multimode is completed based on said termination rule includes determining whether all work nodes in the multinode have been completed, and when all work nodes in the multinode have been completed, terminating the execution of the multimode (col.6, lines 49-63, col.14, lines 57-67, col.15, lines 1-5, 28-45).

15. As per claim 6, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that terminating the execution of the multinode includes canceling other nodes (col.6, lines 49-63, col.14, lines 57-67, col.15, lines 1-5, 28-45, 53-67, col.16, lines 1-20) and proceeding to a successor node (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6, col.16, lines 41-51; forward activity).

16. As per claim 7, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught to comprise the step of allowing flow to continue to said successor node when all activated work nodes in the multimode have been completed (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6).

17. As per claim 8, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that the step of executing the multinode includes the step of providing each work node in the multinode with different input data for execution (col.7, lines 26-30, col.13, lines 63-67).

18. As per claim 9, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that the step of executing the multinode includes the step of providing different attributes for each work node in the multinode (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

19. As per claim 10, Du and AAPA taught the invention substantially as claimed in claim 9. Du further taught that the attributes include one of resources selection criteria, security, exception handling criteria, and deadlines for work node execution (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

20. As per claim 11, Du and AAPA taught the invention substantially as claimed in claim 1. Du further taught that the step of determining when the execution of the multinode is completed based on said termination rule further includes the step of specifying multinode termination by a condition (col.7, lines 6-8, col.14, lines 57-67, col.15, lines 1-5), checking the condition when one of the work nodes in the multimode terminations; and when the condition is satisfied, said



Art Unit: 2154

successor node is activated, and other work nodes in execution within the multimode are canceled (col.15, lines 1-5, 28-45, 53-67, col.16, lines 1-20, 41-51).

21. As per claim 13, Du and AAPA taught the invention substantially as claimed in claim 12. Du further taught that the multinode handling facility further comprises a multinode determination unit for receiving a node definition and responsive thereto for determining whether the current node is a normal work node or one of the multinodes (col.4, lines 10-22, 45-57, col.6, lines 1-6).

22. As per claim 14, Du and AAPA taught the invention substantially as claimed in claim 12. Du further taught that the multinode handling facility further comprises an activation facility for receiving said activation rule and based thereon for determining whether activation is by resource or by variable (col.2, lines 22-51, col.6, lines 1-6).

23. As per claim 20, Du and AAPA taught the invention substantially as claimed in claim 12. Du further taught that each node in the multinode is provided with different input data and different attributes for execution; wherein the attributes includes one of resource selection criteria, security, exception handling criteria, and deadlines for node execution (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

Art Unit: 2154

24. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du and AAPA as applied to claims 12-14 above, and further in view of Dugan et al (hereinafter Dugan), US 2002/0083166.

25. Dugan was cited in the previous office action.

26. As per claim 15, Du and AAPA taught the invention substantially as claimed in claim 14. Du and AAPA did not specifically teach that the multinode handling facility further comprises a resource-based activation facility coupled to the activation facility for processing activation by resource; and a variable-based activation facility coupled to the activation facility for processing activation by variables. Dugan taught a multinode handling facility further comprises a resource-based activation facility coupled to the activation facility for processing activation by resource; and a variable-based activation facility coupled to the activation facility for processing activation by variable (pp. 0051, 0059, 0064-0070). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, AAPA and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du and AAPA's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

27. As per claim 16, Du, AAPA and Dugan taught the invention substantially as claimed in claim 15. Dugan further taught that the resource-based activation facility further comprises a resource rule execution unit for executing a resource rule of the multinode; and a new instance

Art Unit: 2154

generation unit for starting new instance of the multinode for each new resource in the resource list (pp. 0059-0061, 0072-0074). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, AAPA and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du and AAPA's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

28. As per claim 17, Du, AAPA and Dugan taught the invention substantially as claimed in claim 16. Dugan further taught to use a database of record component to store all services and data in the multinode (pp. 0067; e.g., resource rule). Du, AAPA and Dugan did not specifically teach that the resource rule is specified in a service node tag of a multinode description. However, Official Notice is taken that the concept and advantage of using tags to contain instructions is well known and expected in the art. Tag is well known in the art to be a code that identifies an element in a document such as a heading or a paragraph for the purpose of formatting, indexing and linking information in the document. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, AAPA, Dugan and the use of tags to link the resource rule with the multinode description.

29. As per claim 18, Du, AAPA and Dugan taught the invention substantially as claimed in claim 15. Dugan further taught that the variable-based activation facility further comprises a variable name reader for reading the variable name; and a new instance generation unit for starting new instance of the multinode for each new element in the variable identified by the

Art Unit: 2154

variable name (pp. 0067-0069). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, AAPA and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du and AAPA's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

30. As per claim 19, Du, AAPA and Dugan taught the invention substantially as claimed in claim 18. Dugan further taught that a variable type is one of a vector and a list (pp. 0067-0069, 0106). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, AAPA and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du and AAPA's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

31. Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

32. In the remark applicant argued: (1) Nowhere does Du teach or suggest that at run tie determining a number of work nodes to be activated based on an activation rule. (2) Nowhere does Du teach or suggest "when the execution of the multinode is not complete, processing continues at step c)".

Art Unit: 2154

33. Examiner traverse the argument that:

As to point (1), Du specifically teaches in column 6 to use the workflow management interface to allocate, at run time, execution resources to a task. This clearly reads on the claimed language.

As to point (2), Du specifically teaches in column 1, lines 56-63 that the tasks will be executed and can ensure that the workflow process continues until proper termination. This clearly shows that if the workflow process is not completed, the execution of the work nodes continues until it is terminated.

### *Conclusion*

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ghoneimy et al, US 2004/0078373.

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2154

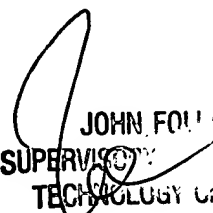
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenny Lin whose telephone number is (571) 272-3968. The examiner can normally be reached on 8 AM to 5 PM Tue.-Fri. and every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksl  
August 5, 2005

  
JOHN FOLLANSBEE  
SUPERVISOR  
TECHNOLOGY CENTER 2100